

ABSTRACT

The present invention relates to a display film that may be transferred by lamination or otherwise onto a substrate. The display film is formed of a stack of layers that can include different types, arrangements, and functionality within the stack depending upon factors including the characteristics of the substrate (e.g., upper or lower, transparent or opaque, substrates) and addressing of the display (e.g., active or passive matrix, electrical or optical addressing). The layers of the stacked display film include one or more electrode layers and one or more liquid crystal layers and, in addition, may include various combinations of an adhesive layer, preparation layer, casting layer, light absorbing layer, insulation layers, and protective layers. The liquid crystal layer can include cholesteric or other liquid crystal material. The liquid crystal layer can be a dispersion of liquid crystal in a polymer matrix formed by a variety of techniques. The display film may interact with components mounted on or laminated to the substrate, including a solar cell, active matrix backplane and electrodes. The display film may be mounted onto flexible or drapable substrates such as fabric and can itself be drapable. Thus, the invention offers substantial flexibility in fabrication and design that has not been previously possible in the display industry.